

FAULT DETECTION IN AN ELECTRIC POWER-ASSISTED STEERING SYSTEM

ABSTRACT OF THE DISCLOSURE

A method and system for detecting faults in an electric power-assisted steering system includes determining a voltage vector of an electric power-assisted steering motor and measuring a current vector of the motor. Acceptable angular relationships are defined between the voltage vector and the current vector, which are then compared to find a fault if the angle does not meet the acceptable angular relationship. Additionally, motor direction and position can also be used against an angular check of the voltage and/or current vector. Similarly, torque direction can be used. In this way, several different faults can be determined dynamically under transient conditions.